

Between the G A P

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Between the Gap

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Abstract

The reveal is an important architectural element. In many buildings, reveals define transitions between dissimilar materials, textures, finishes or planes. A reveal can also be thought of as a gap. Webster's dictionary defines a gap as "an opening made by breaking or parting." Often the word "gap" is associated with a deficiency or failure, but a gap, similar to a reveal, can be intentional and essential to the success of a building. The visually impaired experience a "gap" with the sight-seeing public. They cannot see the spaces architecture creates and are forced to rely on other auditory and tactile clues to gain an understanding of the space they occupy including their orientation within it. This thesis explores the idea of a gap and attempts to bridge the "gap"



*This book is dedicated to my family, for their
unceasing support, encouragement and love,*

*And to those who I have not met yet, I hope as an
architect, I may have the opportunity to improve your
built environment.*



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*"There are valued times in almost everyone's experience when the world is perceived afresh: perhaps after a rain as the sun glistens on the streets and windows catch a departing cloud, or alone, when one sees again the roundness of an apple. At these times our perceptions are not at all sentimental. They are, rather, matter of fact, neutral and undesiring – yet suffused with an unreasoned joy at the simple correspondence of appearance and reality, at the evident rightness of things as they are. It is as though the sound and feel of a new car door closing with a "kerchunk!" were magnified and extended to dwell in the look, sound, smell, and feel of all things."*¹

- Michael Benedikt

Which text below is easier to read, why?

Concept

The reveal is an important architectural element. In many buildings, reveals define transitions between dissimilar materials, textures, finishes or planes. They articulate the joints of a material such as concrete, and attempt to control its physical tendencies, such as cracking. Aesthetically, reveals create shadow lines and provide visual interest and action to a building's appearance. Often these shadows can be more powerful than a tangible line, as seen in Vicente Carducho's engraving from his *Dialogos de la Pintura*. He portrays a shadow cast from a brush upon an empty canvas to imply to the viewer that the shadow surpasses the significance of an actual drawn line. Shadows capture an instant, a moment of dependence it has with a solid body. A reveal can also be thought of as a gap. Webster's dictionary defines a gap as "an opening made by breaking or parting."² Often the word "gap" is associated with a deficiency or failure, but a gap, similar to a reveal, can be intentional and essential. Similar to spaces that separate words to make reading more successful, gaps are necessary for the success of a building.

Therevealisanimportantarchitecturalelement. Inmanybuildings,revealsdefinetransitionsbetween dissimilarmaterials,textures,finishesorplanes.They articulatethejointsofmaterial,likeconcrete,and attempttocontrolamaterial'sphysicaltendencies, suchascracking.Aesthetically,revealscreate shadow linesandprovidevisualinterestandactiontoabuilding. Oftenthese shadows canbemorepowerfulthana tangibleline,asseeninVicenteCarducho's engraving fromhisDialogosde laPintura.Heportraysashadow cast fromabrushuponanemptycanvas,implyingtothe viewerthattheshadowsurpassesthesignificance of an actualdrawnline.Shadows captureaninstant, amomentofdependencethatishaswithasolidbody.A revealcanalsobethoughtofasagap.Webster's dictionarydefinesagapas"anopeningmadeby breakingorparting."Oftentheword"gap"isassociated withadeficiencyorfailure,butagap,similartoareveal, canbeintentionalandessential.Similartospaces that separatetowords,gapsareneccessaryforthesuccessof a building.

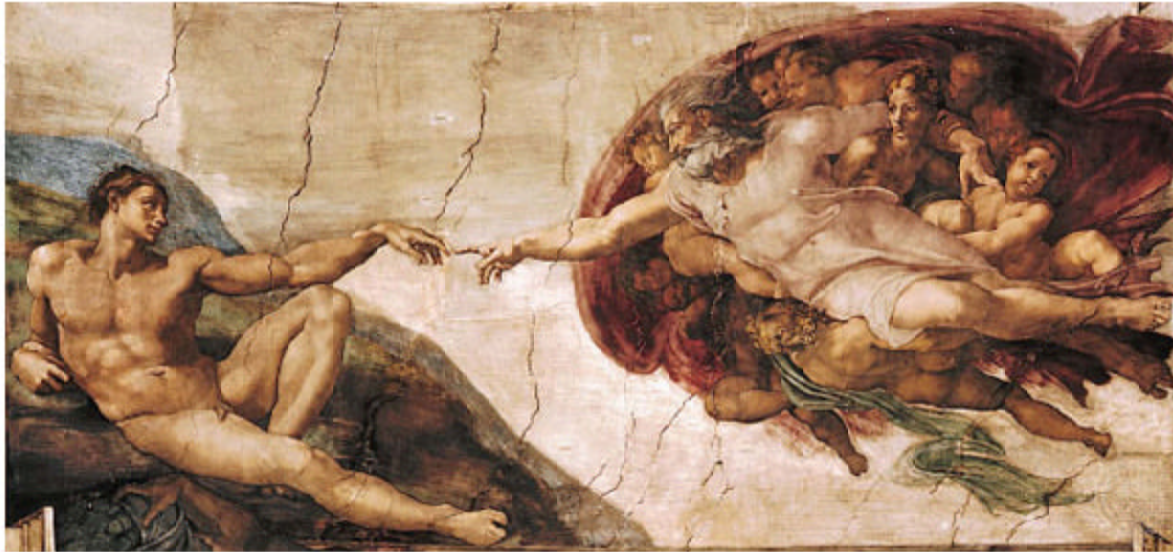


Fig. 1
"Creation of Adam 1510 Cappella Sistina Vatican" by Michelangelo

[fair use]



Fig. 2
Beinecke Library by Gordon Bunshaft at Yale University

[fair use]



Fig. 3
"The Bean" sculpture by Anish Kapoor in Chicago

[by author]



Fig. 4
Tripolis Office Complex by Aldo Van Eyck in Amsterdam

[fair use]

The Program

Architecture involves the creation of a space through the physical expression of a shape or form. Many people are able to perceive these shapes and forms, and quickly compute large amounts of information through seeing with their eyes. However, the visually impaired must rely on other auditory and tactile clues to gain an understanding of the space they occupy including their orientation within it.

I was inspired to investigate this topic as I witnessed my late grandfather experience his own loss of sight. My design intent was to create a mixed-use building that was both a private assisted living facility and a public Braille Library. The assisted living facility would temporarily house visually impaired middle-aged residents who have the desire to learn Braille. The program facilitates the sightless residents to come together as a community. Here, they learn Braille to lessen the "gap" between them and the sight seeing world.

It is the idea for the visually impaired to be able to walk down a hallway guided by a sense of light and feeling of shadow created through architecture. Each level is also clad on the exterior and interior with brick that varies in size and texture. As you ascend in level, the bricks decrease in size and roughness to tangibly give orientation.



My grandparents



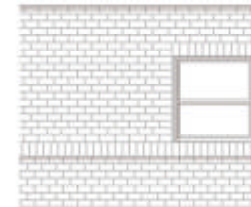
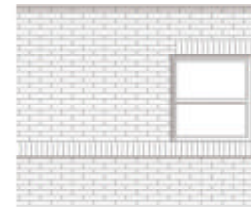
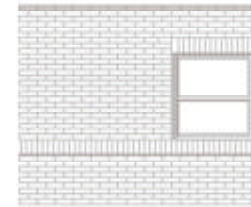
Fig. 5 [fair use]
"Sculpture Pavilion" by Aldo Van Eyck



Fig. 6 [fair use]
VM Housing by PLOT Architects



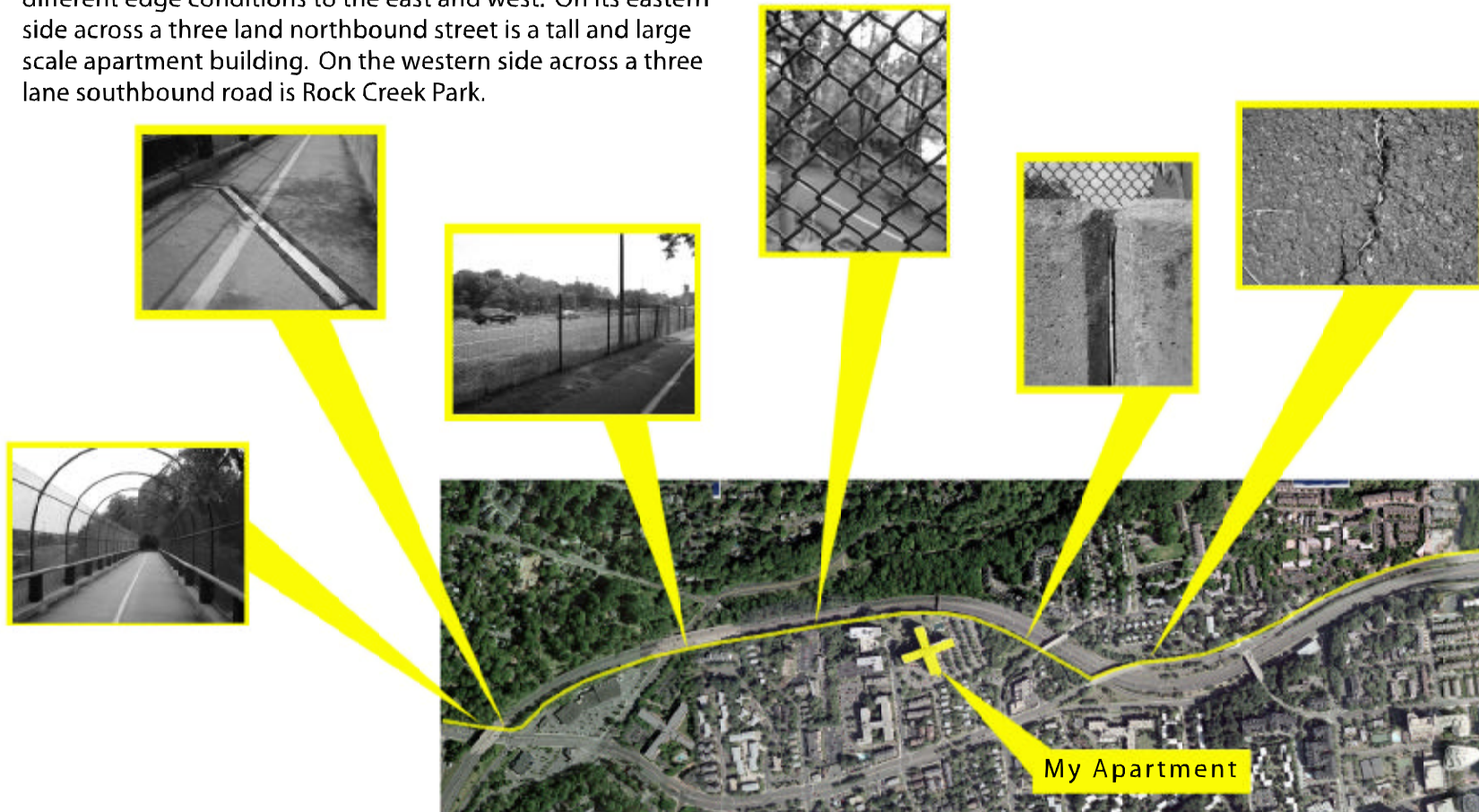
A visually impaired man walking down the corridor of my thesis building



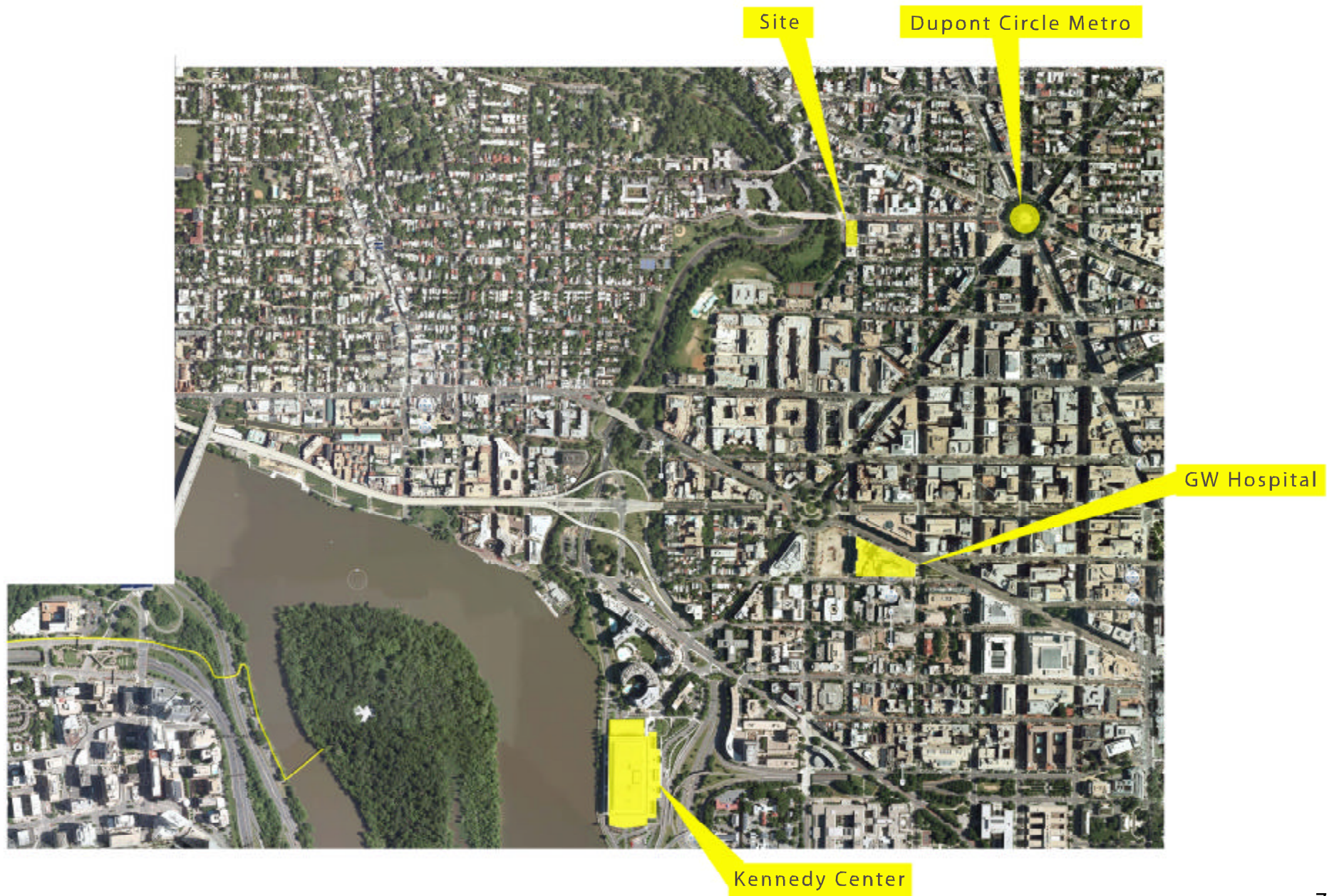
Changes in brick size and texture

The Site

The site I chose is located at a very busy and noisy intersection, P and 22nd Streets in Washington, D.C. Adjacent to Rock Creek Park, this site has been transformed many times over the years - from the Rider and Hunt Club of Washington in the early 1900s to a gas station and parking lot now. The site has two very different edge conditions to the east and west. On its eastern side across a three lane northbound street is a tall and large scale apartment building. On the western side across a three lane southbound road is Rock Creek Park.



Above are examples of natural and man-made gaps along a path I typically run in Arlington, VA.



Site Transformation and Current Site Conditions

Site in the early 1900s

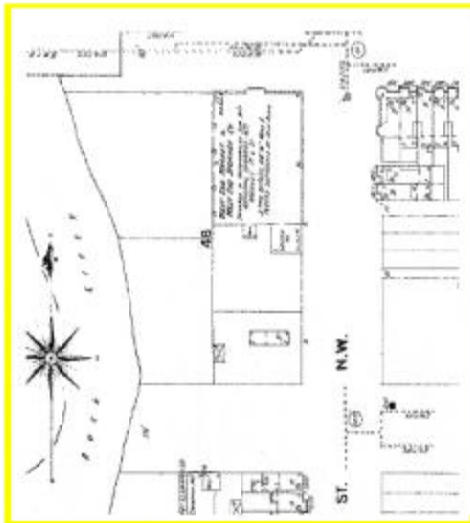


Fig. 7

[fair use]

Site in the 1920s

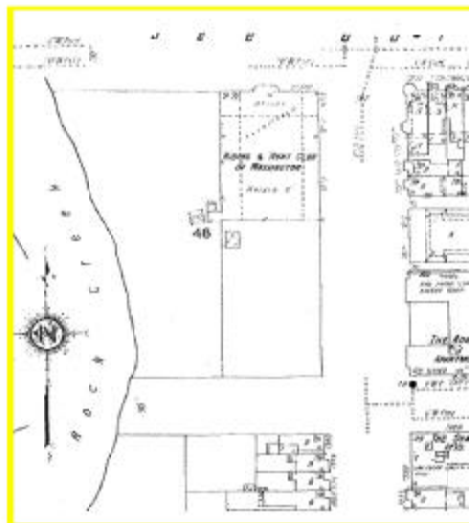


Fig. 8

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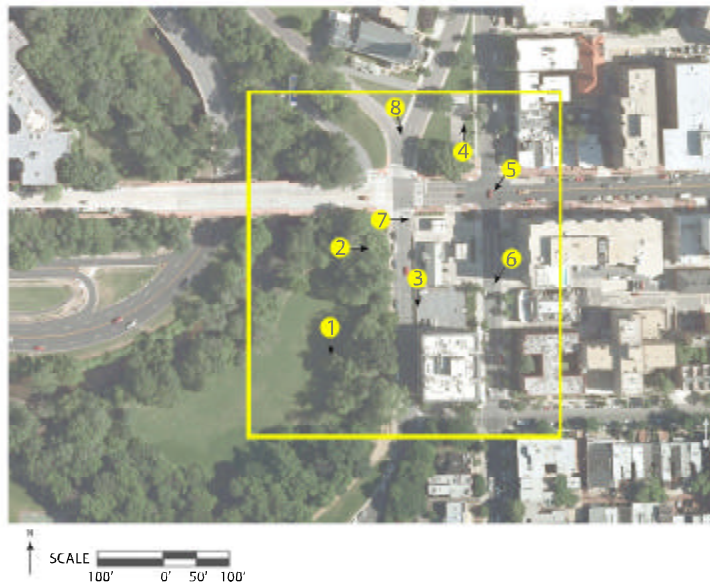
Site in the 1959



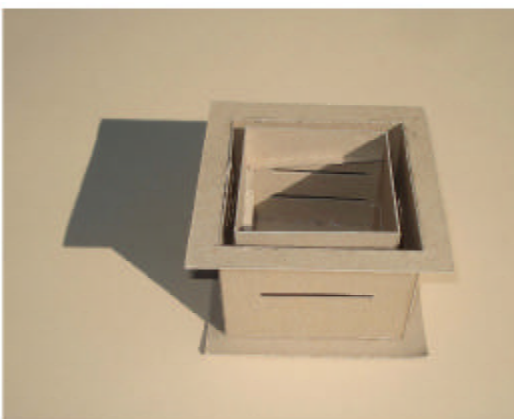
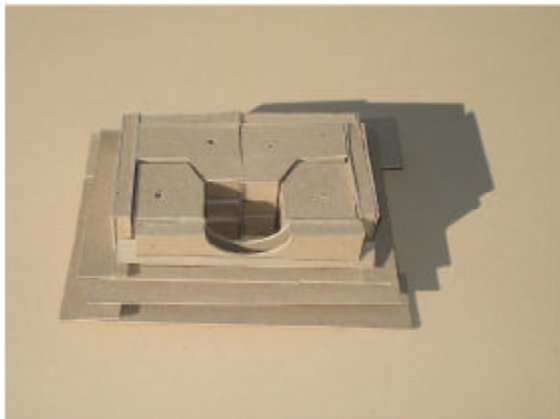
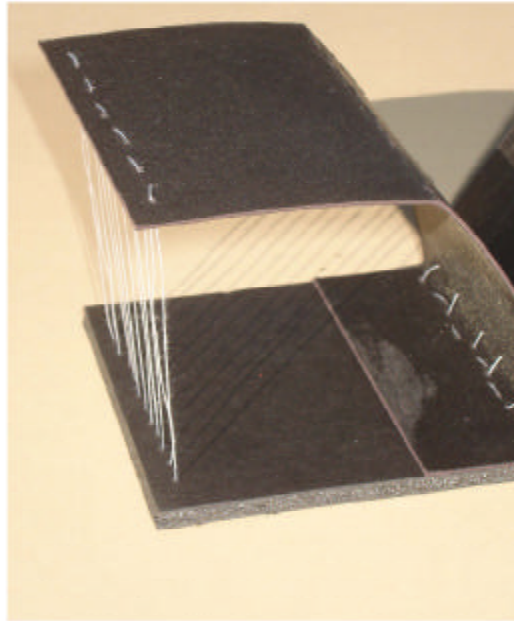
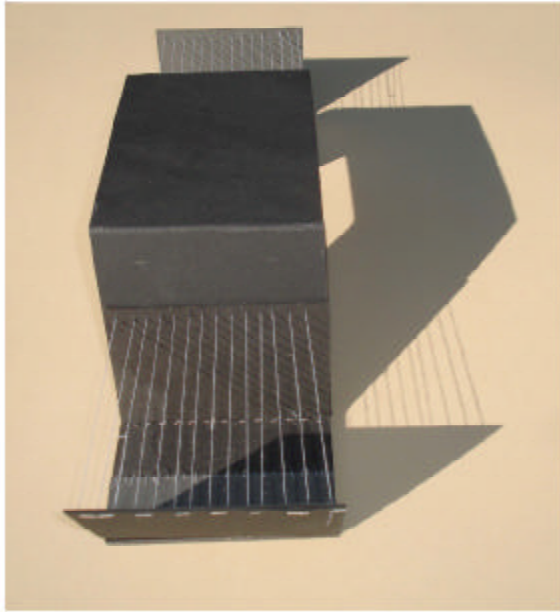
Fig. 9

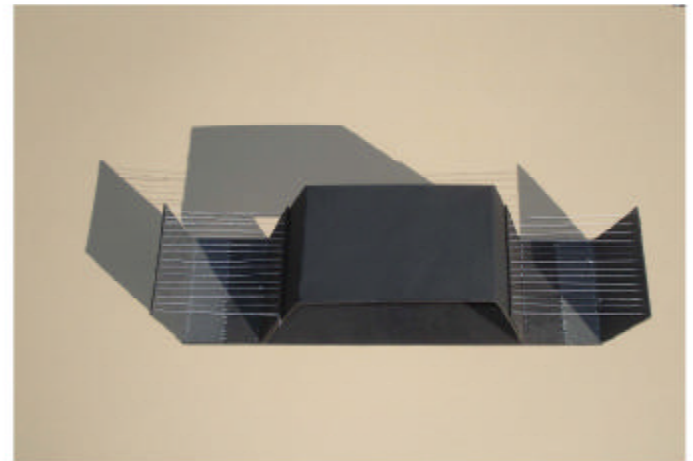
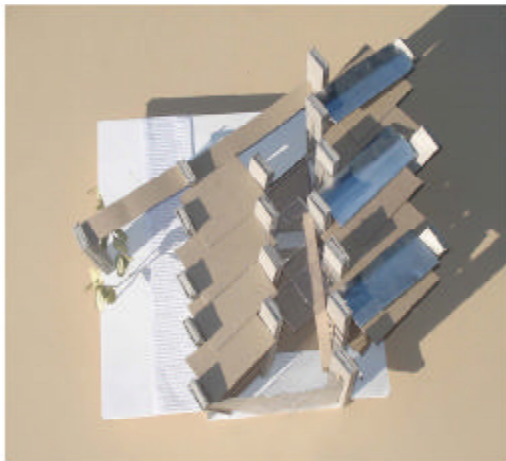
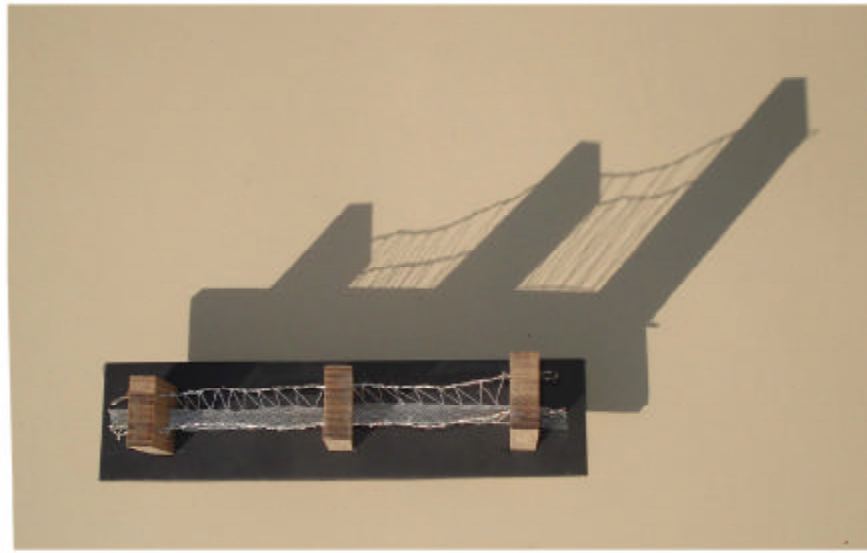
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Existing Site Conditions, 2009



Conceptual Study Models





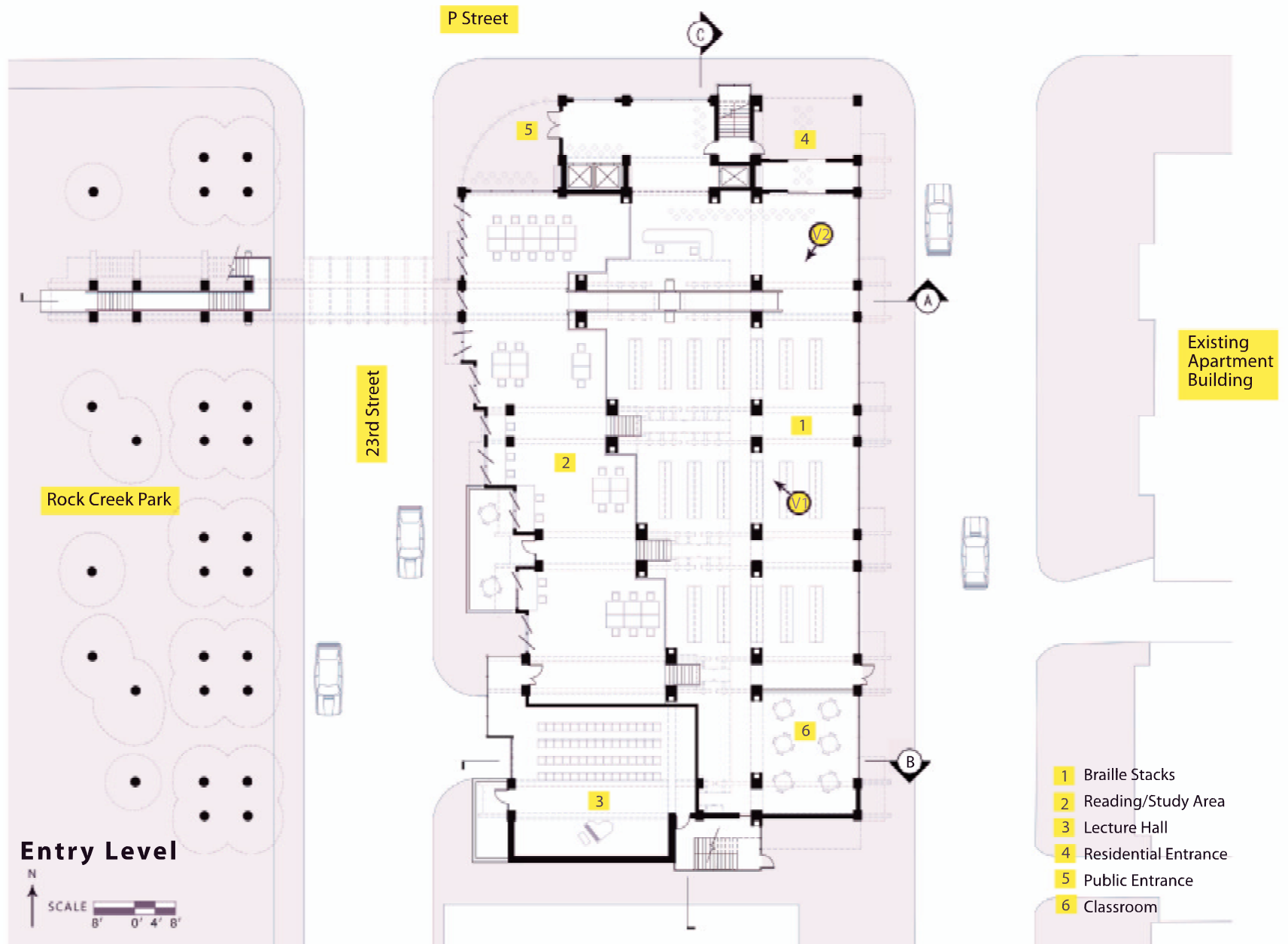
The Building

To address the different edge conditions of the site, the east and west façade of my building are very different from each other. The eastern façade responds to the large scale apartment building across the street and maximizes the land area for the building. Along this straight edge is the shelving for Braille books. Today, many Braille books are “checked out” through the mail order process. However, a common complaint among the blind community concerning this process is that it eliminates the ability for them to browse and have the chance to find something unexpectedly. This shelving creates an opportunity for them to now browse.

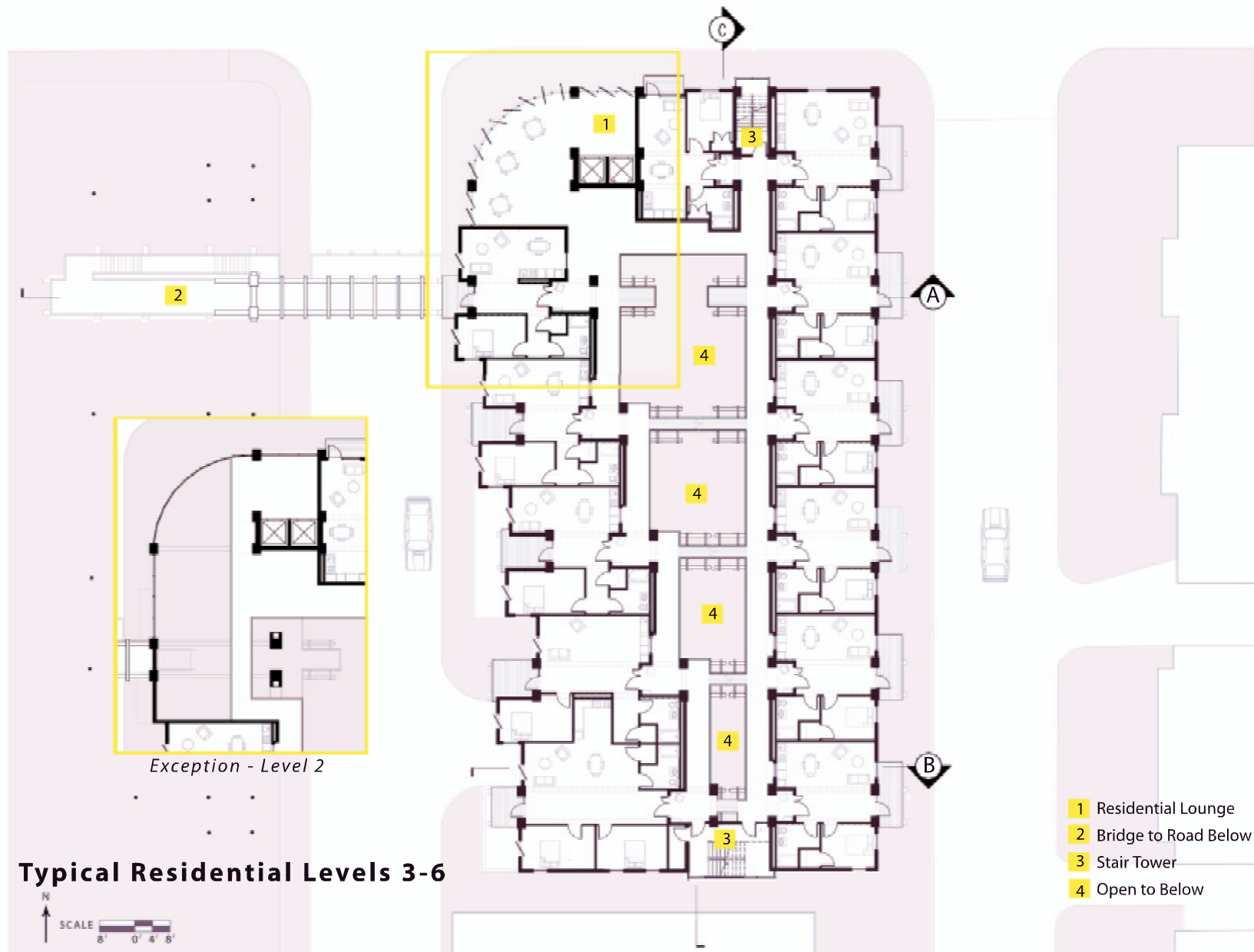
The west side of the site faces Rock Creek Park – the more natural of the edges. The façade on this edge steps forward and backward to playfully expose and conceal the columns. Along this edge, there are tables and chairs for study areas and the Lecture Hall. This side is elevated half a level to create a better visual connection with the park and mitigate the noise of the passing cars below. The western facing windows are operable and highly reflective. As a result, the image of the park reflects upon the façade. When a window is opened, a gap is created in the reflected image.

The building narrows as the east and west façades pinch down toward the southern end of the site. A glass stair tower is located at this “pivot point.” The gap between the apartments on the eastern and western edges increases at consistent intervals and opens up towards the park to the northwest. Here a small lounge is located at each residential level.







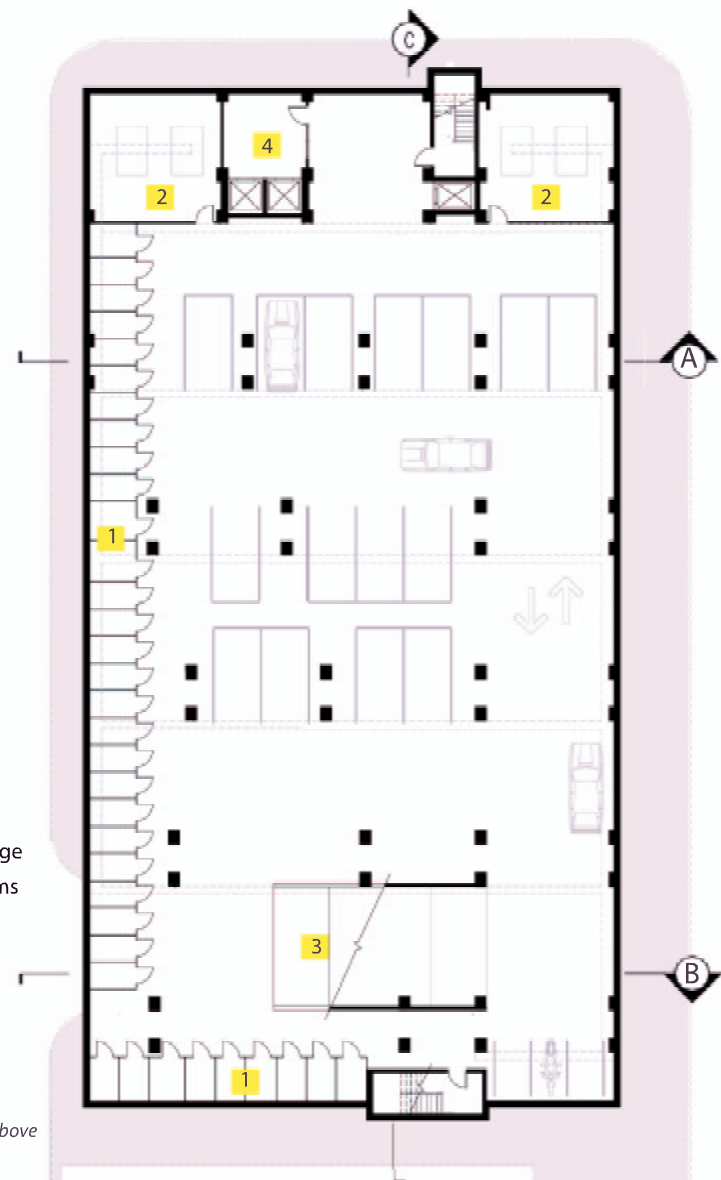




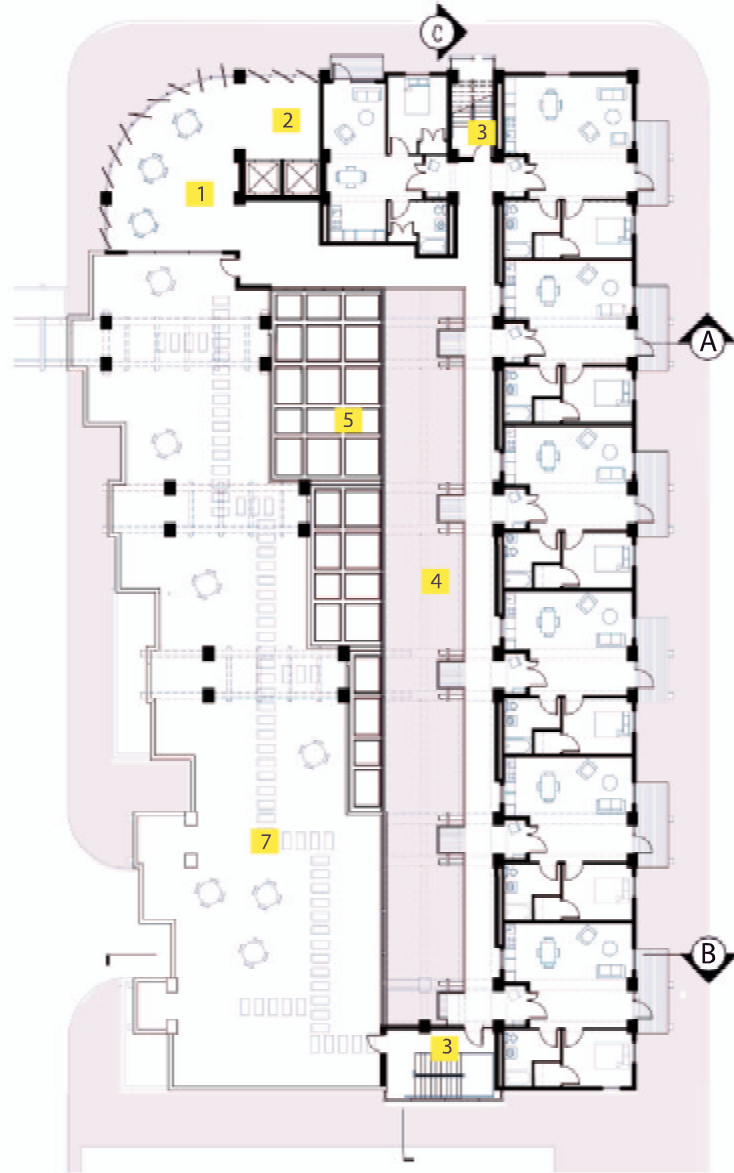
Sub-Grade Level 1 - Audio Storage

- 1 Residential Storage
- 2 Mechanical Rooms
- 3 Vehicle Ramp
- 4 Vestibule
- 5 Audio Shelving
- 6 Office
- 7 Restrooms

Glass Block
embedded in floor above

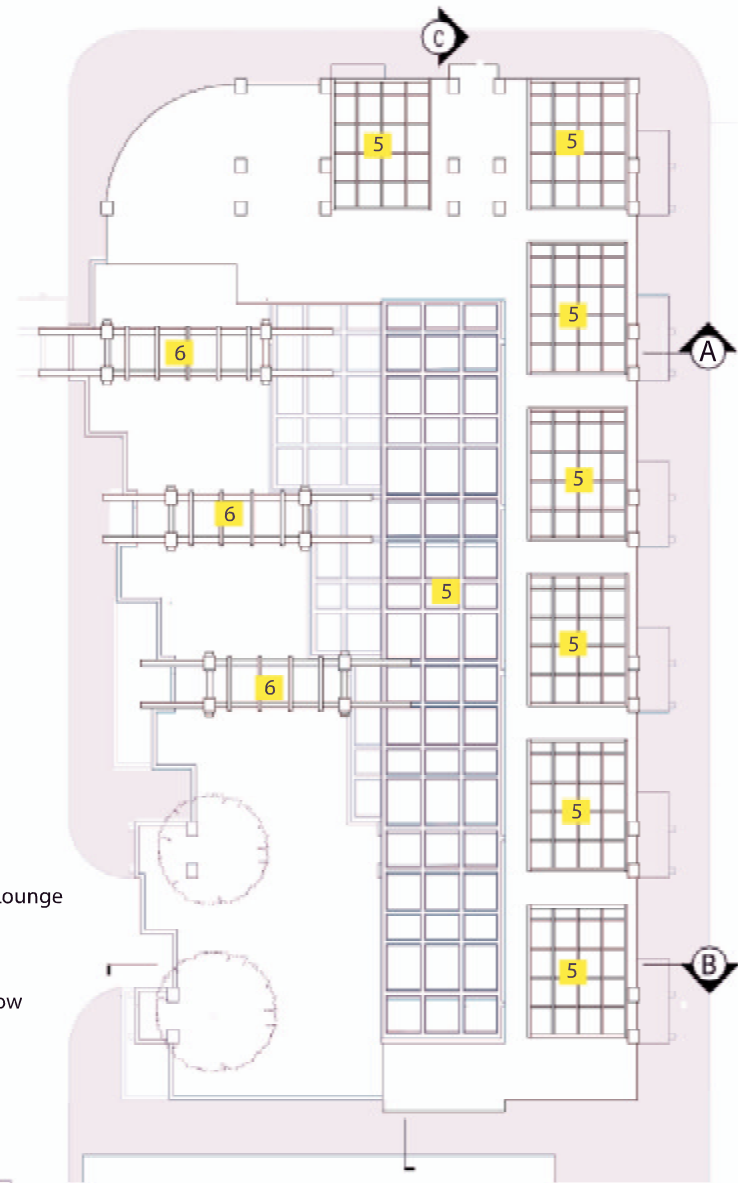


Sub-Grade Level 2 - Garage

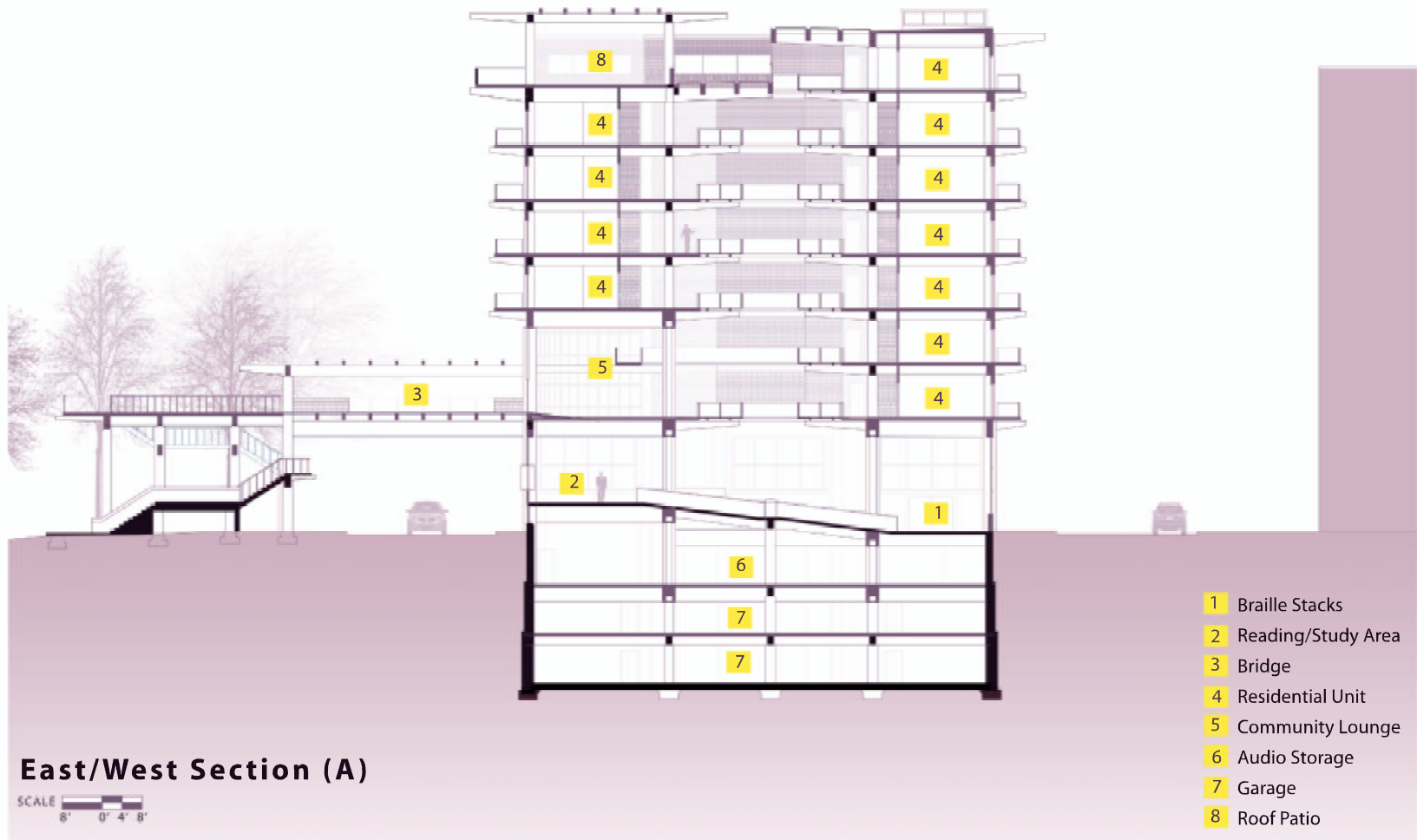


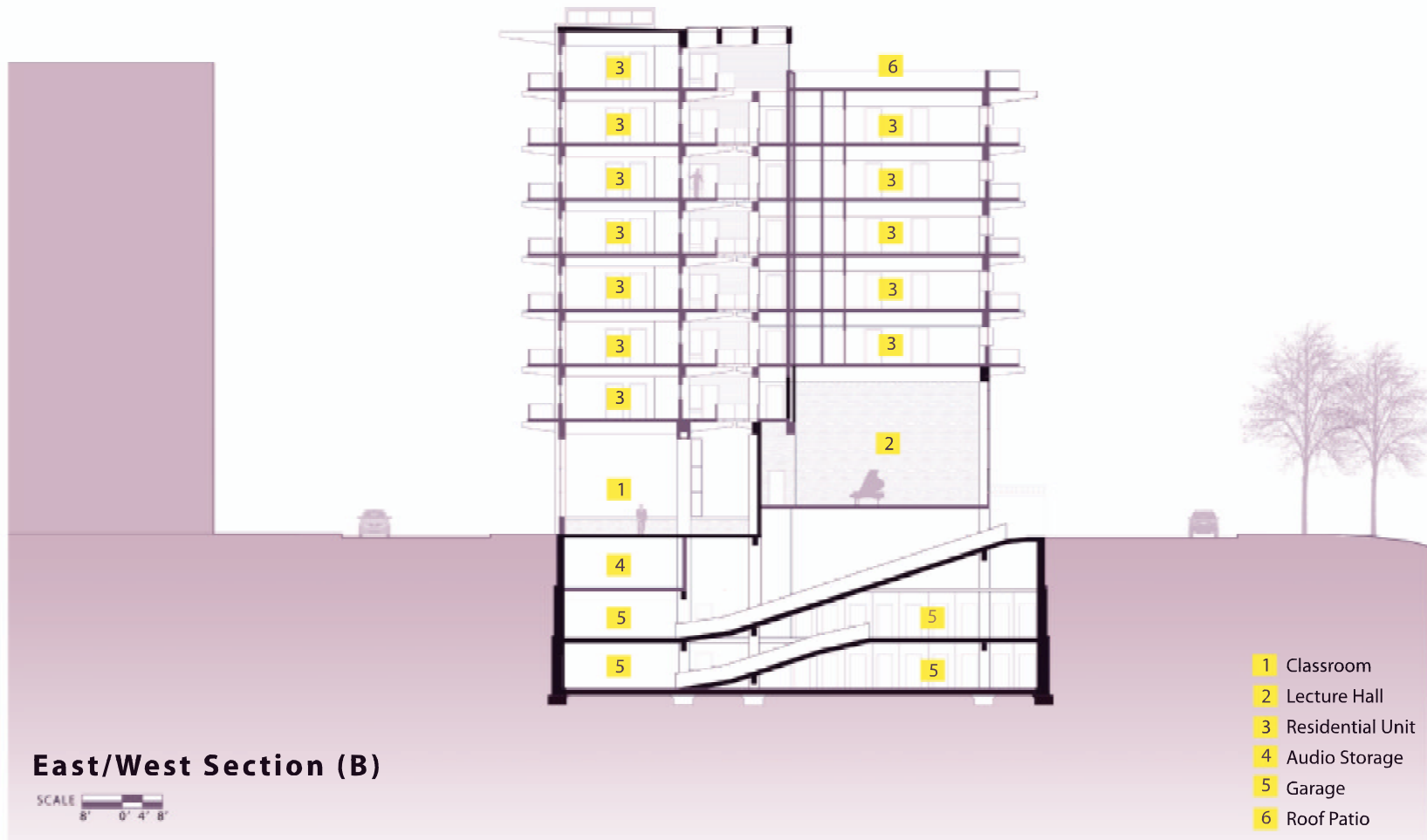
Roof Plan - Lower Level

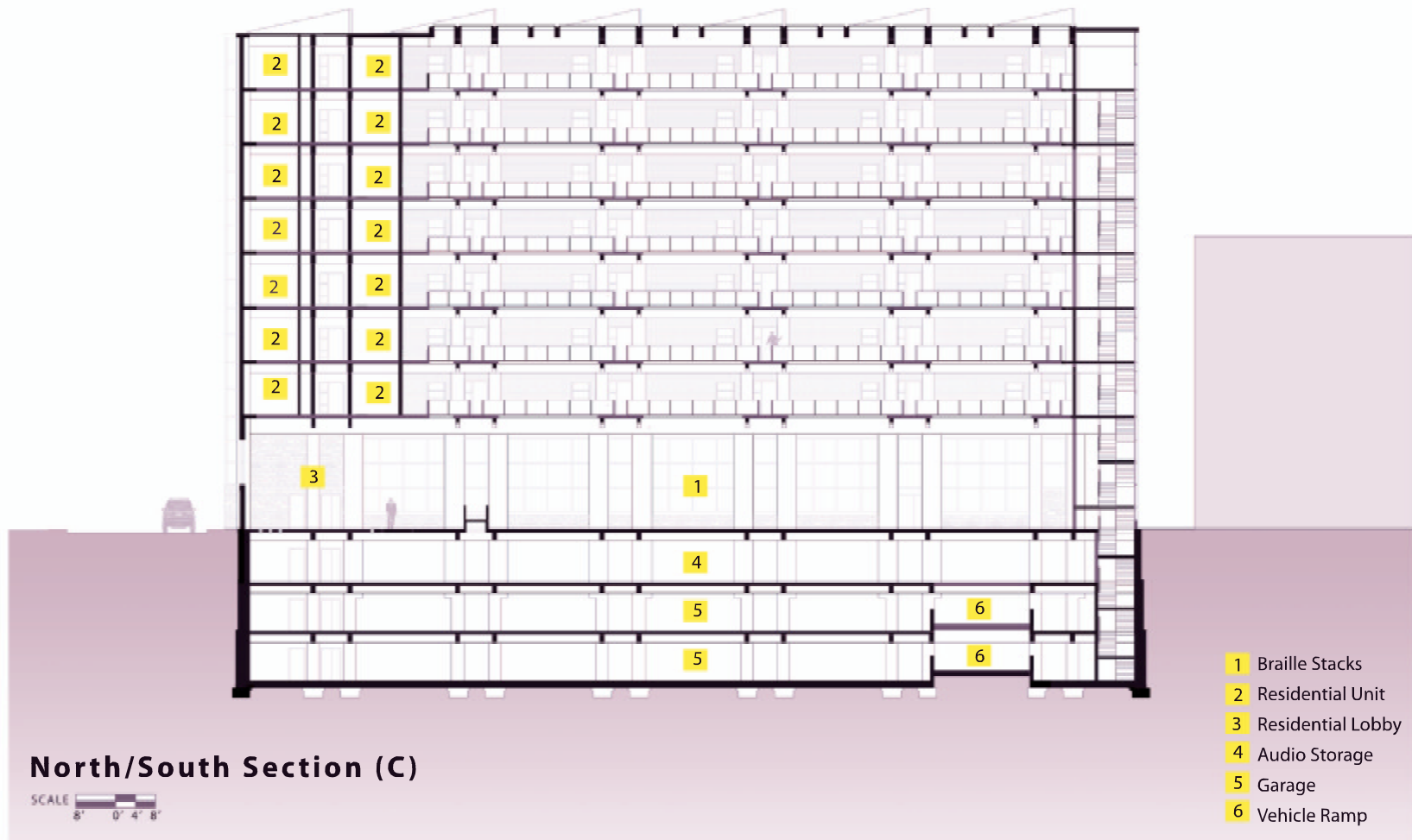
- 1 Residential Lounge
- 2 Vestibule
- 3 Stair Tower
- 4 Open to Below
- 5 Skylight
- 6 Trellis
- 7 Roof Patio



Roof Plan - Upper Level

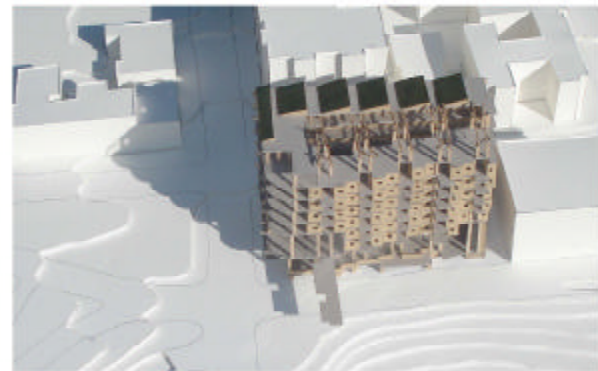
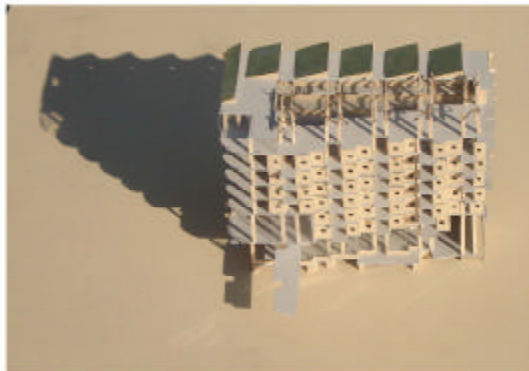




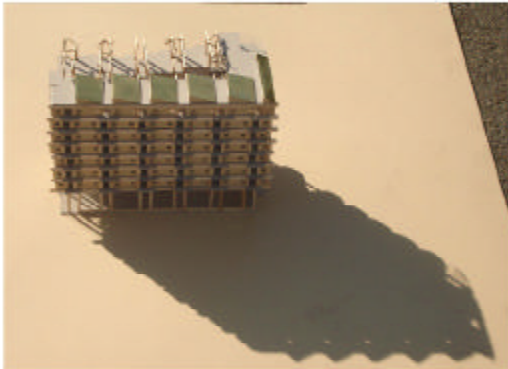




Study Model - Section through center Atrium showing Structure









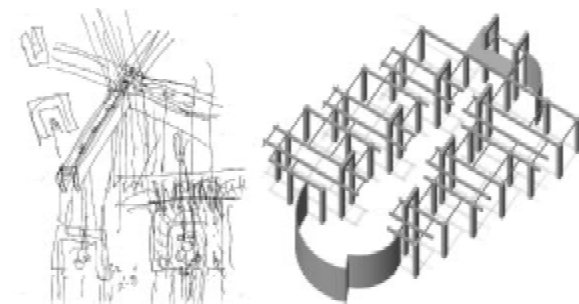
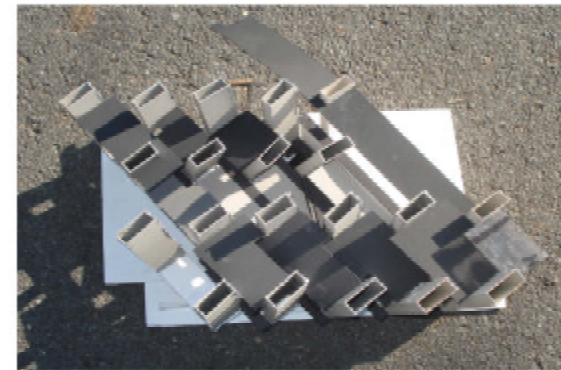
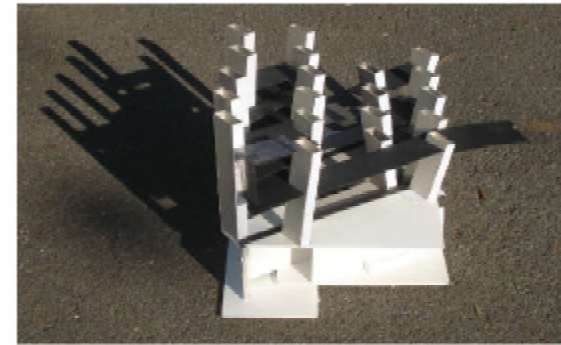




Structure

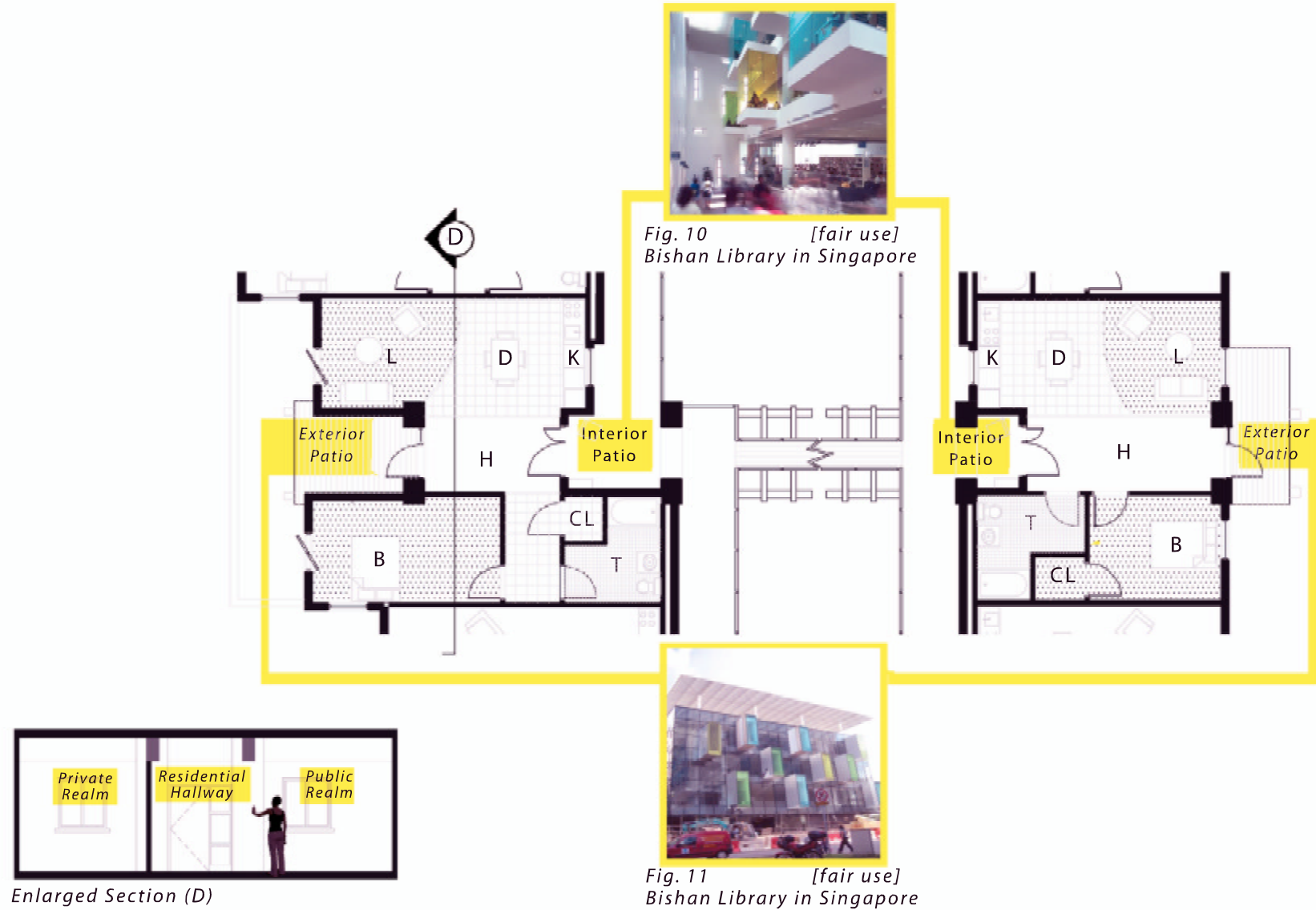
My initial design studies explored the structural system of my building. I wanted the structural elements - columns and beams - to interweave with each other, similar to the way I wanted the sightless residents to interweave together as a community. Massive precast concrete columns are rhythmically spaced to support the beams and floors. As a result of the large shadows cast by these columns, the visually impaired gain a better understanding their orientation. They have the ability to feel the difference between being in the coolness of a shadow or the warmth of the sunlight. Adjacent to and aligned with these columns are the wet walls to each residential unit. Pipes and electrical wires travel through these wet walls and the concrete floor slabs until they reach the Entry Level. At the Entry Level, they run horizontally within the beams towards the nearest column. At this point, these columns are oversized to allow gaps to be carved out of them. Within these gaps, pipes and wires travel downwards to the mechanical units.

Before entering a residential unit, a person passes between the two columns. At this point, there is a change in floor material along with a change in sound to identify to the user that he is about to enter into another space. The beams supported by these columns are exposed on the interior of each residential unit and separate the public living quarters from the private. These same beams extend and cantilever from this private residential realm above the public domain of the library. Here on these are auxiliary pathways one can experience the inbetween and feel the "gap."

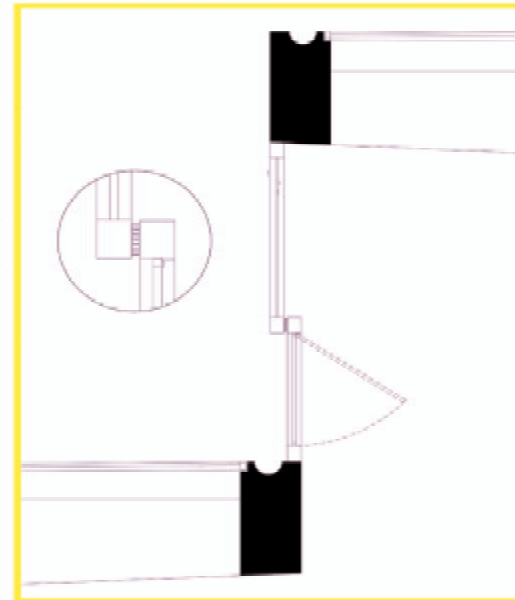
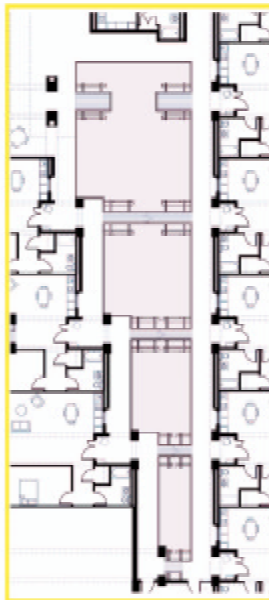
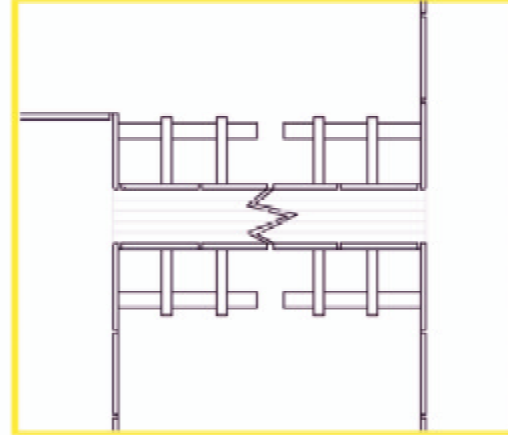
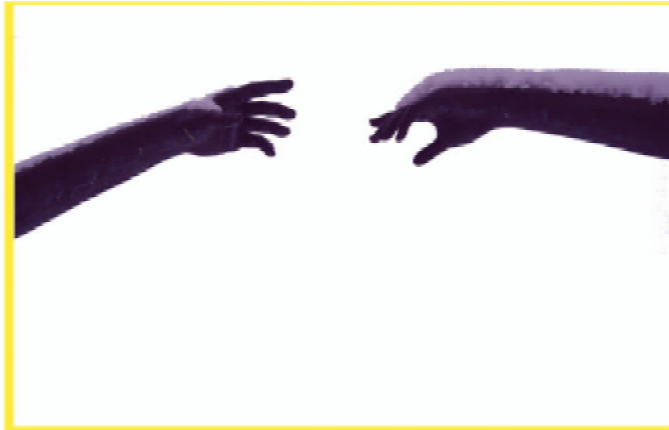


Sketch, Jaan Holt

Enlarged Plan - Typical Dwelling Unit off Central Atrium



Gaps ...



Bibliography

1 Benedikt, Michael. *For an Architecture of Reality*. New York: Lumen Books, 1987, p. 2.

2 Neufeldt, Victoria, ed. *Webster's New World Dictionary*. New York: Warner Books, 1990.

Other Resources:

Stoichita, Victor. *A Short History of the Shadow*. London: Reaktion Books Ltd, 1997.

Credits

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Figure 12: Wilson, Forrest. *What it Feels Like to be a Building*. Washington, DC: The Preservation Press, 1988.

Thanks . . .

To my Committee, for all your advice and your desire to push me to be a better architect.

To Grimm + Parker Architects, for your understanding of my student schedule.

To my Friends, for your continual encouragement and support.

To the Fabulous Five below, without even one of you, I wouldn't be where I fortunately am today . . .



Fig. 12 [fair use]